

### Abstract

The present invention is related to a plastic optical fiber bundle with patterned illumination depressions. A single plastic optical fiber is reeled off and spun through a spinning nozzle. The surface of the plastic optical fiber is then formed with depressions in a patterned manner based on an appropriate spaced unit before the plastic optical fiber is cooled in a cooling area. When forming depressions on the plastic optical fiber, only the outer layer is formed with the depressions without affecting the inner layer so as to produce an illumination effect on the surface of the plastic optical fiber. A plastic optical fiber bundle is formed by individual plastic optical fibers with spaced illumination depressions. An illumination structure is installed on each end of the plastic optical fiber bundle and a luminary or a spotlight bulb is installed in each illumination structure of the plastic optical fiber bundle. When the power is turned on, the luminary or spotlight bulb radiates light through the plastic optical fiber bundle with illumination depressions. The light is very soft without offending to eyes and can be used for different applications.

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